

Are Orthopaedic Surgeons Being Adequately Compensated for Ankle Fractures? An Analysis of Relative Value Units

Azeem Tariq Malik, MBBS; Laura Phieffer, MD; Thuan V. Ly, MD; Safdar N. Khan, MD;
Carmen E. Quatman, MD, PhD

The Ohio State University Wexner Medical Center, Columbus, OH, United States

Purpose: Trimalleolar fractures, as compared to simple unimalleolar fractures, are technically more challenging cases, have longer operative times, and require a higher effort. No study has evaluated whether the current relative value units (RVUs) reflect an appropriate compensation per unit time following open reduction and internal fixation (ORIF) for unimalleolar versus bimalleolar versus trimalleolar ankle fractures.

Methods: The 2012-2017 American College of Surgeons National Surgical Quality Improvement Program (ACS-NSQIP) files were queried using CPT codes for patients undergoing ORIF for unimalleolar (CPT 27766, CPT 27769, CPT 27792), bimalleolar (CPT 27814), and trimalleolar (CPT 27822, CPT 27823) ankle fractures. A total of 7830 (37.2%) unimalleolar, 7826 (37.2%) bimalleolar, and 5,391 (25.6%) trimalleolar ankle fractures were retrieved. Total RVUs, mean RVU/min, and mean reimbursement/min were calculated. Mean reimbursement/case was calculated by multiplying the reimbursement rate by the operative time. Kruskal-Wallis tests were used to compare RVUs, operative time, and reimbursements between the 3 fracture groups.

Results: The mean total RVUs for each fracture type was as follows: (1) unimalleolar, 9.99; (2) bimalleolar, 11.71; and (3) trimalleolar, 12.87 ($P < 0.001$). A statistically significant difference was noted in mean operative time (unimalleolar = 63.2 vs bimalleolar = 78.6 vs trimalleolar = 95.5; $P < 0.001$) between the 3 groups. Reimbursement rates (\$/min) decreased significantly as fracture complexity increased (unimalleolar = \$7.21/min vs bimalleolar = \$6.75/min vs trimalleolar = \$6.10; $P < 0.001$). The average reimbursement/case was \$358, \$420, and \$462 for unimalleolar, bimalleolar, and trimalleolar fractures, respectively. Based on a hypothetical scenario, an orthopaedic surgeon spent 190 minutes fixing 2 trimalleolar fractures and earning \$924 in the process. Within a total operative time of 190 minutes, 3 unimalleolar ankle fractures and 2 bimalleolar ankle fractures could be managed completely with an associated earning of \$1074 and \$840, respectively.

Conclusion: Orthopaedic surgeons are reimbursed at a higher rate (\$/min) for treating a simple unimalleolar fracture as compared to bimalleolar and trimalleolar fractures, despite the higher complexity and longer operative times seen in the latter. The study highlights the need of a change in the RVUs for bimalleolar and trimalleolar ankle fractures to ensure that surgeons are adequately reimbursed per unit time for treating a more complex fracture case.